

New Zealand has two common species of rock lobster: the red or spiny rock lobster (*Jasus edwardsii*) and the green or packhorse rock lobster (*Sagmariasus verreauxi*).

- Packhorse rock lobster, the world's largest rock lobster, can be as large as 70 cm and 20 kg.
- Red rock lobster are generally smaller, but can reach about 60 cm overall length and weighing up to 8 kg.

Spiny red rock lobster  
*Jasus edwardsii*  
Dark red colour with spiny  
body and tail



Packhorse rock lobster  
*Sagmariasus verreauxi*  
Green colour with smooth  
tail segments

### Red rock lobster life cycle

Red rock lobsters have a long and complex life history:

- Mating occurs within a few weeks of the female moult.
- The adults mate and the females carry eggs (berried) under the tail for 3-6 months.
- Females bear up to 1 million eggs depending on area and their size.
- Larvae hatch and swim in the open ocean for 12-24 months, during which they undergo numerous moults and changes (11 phyllosoma stages) and fall prey to a variety of plankton feeders.
- Larvae may move considerable distances with ocean currents, returning to inshore areas to settle on the bottom as transparent puerulus, which resemble miniature adults.
- The puerulus stage settles and moults into the juvenile stage.
- At this stage they may suffer heavy predation from bottom feeding fish, until they find adequate shelter.
- Juveniles mature and become adults after 5-10 years.



Photo: A. Blacklock

### Growth and age

To increase in size, a rock lobster must shed or moult its shell and grow a new larger one which is initially soft, leaving it very vulnerable to predators. It absorbs water rapidly and expands to its new size. The shell hardens within a few days, taking longer to thicken to full strength.

Moulting frequency and times depend on age and sex. Red rock lobsters reach legal size in 5–10 years, depending on the sex of the lobster, area, and growth rates. Rock lobster may live for over 30 years.





## Distribution, habitat and movement

Both red rock lobsters and packhorse rock lobsters are found in coastal areas where there is plenty of cover. Red rock lobsters are widespread, while packhorse rock lobsters are found more to the north of New Zealand.



During the day, rock lobsters are normally found in rock crevices (dens), which provide shelter from predators, storms, and the sun. They generally leave the dens around dusk to forage for prey, returning just before dawn and staying in the safety of crevices during the day. They eat a wide variety of bottom-dwelling life, with a preference for shellfish, crabs, seaweeds, small fish and sea urchins.

They move into shallow water seasonally for moulting and mating, and females move to the edges of reefs to spawn their eggs. Rock lobster migrate in large numbers. Movements of up to 460 km by red rock lobsters, and up to 1,070 km by packhorse lobsters have been recorded.

## Recruitment

Recruitment to rock lobster stocks is highly variable. The long oceanic larval phase of red rock lobsters means that larvae hatched in one area may be retained in that area by local eddy systems, carried to other areas by currents, or lost to New Zealand entirely. For most areas, larvae may originate a considerable distance from the settlement site.

The number of 'puerulus' larvae that settle to the sea floor varies among areas and from year to year, and may be affected by environmental factors such as the amount of suitable habitat available, the persistence of storms, prevailing ocean currents, sea temperature, food availability, and predation.



Large numbers of puerulus larvae also die before reaching suitable habitat, which is due in part to predation, but may also be a result of unfavourable environmental conditions.

For more information about rock lobster biology and stock status, see the Fisheries Stock Assessment Plenary: <https://www.mpi.govt.nz/dmsdocument/43321> or <https://www.fisheries.govt.nz/news-and-resources/science-and-research/fisheries-research>